Sungjun Eom (updated on Aug. 27, 2025.)

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Google Scholar: https://scholar.google.com/citations?user=vymNsc8AAAAJ&hl=en
Website: https://sungjuneom.github.io/

Research Interest

My research interest is focused on **bridging the gap between the digital and physical worlds** by enhancing the **robustness**, **adaptability**, and **practicality** of **intelligent systems**.

Education

- **M.S. in Electrical & Computer Engineering**   *Mar. 2025 - Present*
  University of Seoul   Seoul, South Korea

- **B.S. in Electrical & Computer Engineering**   (including military service) *Mar. 2018 - Feb. 2025*
  University of Seoul   Seoul, South Korea

- **B.S. in Statistics**   (including military service) *Mar. 2018 - Feb. 2025*
  University of Seoul   Seoul, South Korea

Experience

- **Control and Dynamic Systems Lab, University of Seoul**   *Jan. 2024 - Present*
  Master Student, Undergraduate Research Intern   Seoul, South Korea
  – Currently improving the differential dynamic programming algorithm.

- **Intelligent Robot Lab, University of Seoul**   *Jan. 2023 - Feb 2023*
  Undergraduate Research Intern   Seoul, South Korea
  – Presented a paper review on the state-of-the-art MFA-Conformer in the speaker verification field at that time.

- **Deep Learning Specilization Course by Andrew Ng, Coursera**   *Dec. 2021 - Feb. 2022*
  5 courses   Online
  – Built neural network architectures such as CNNs, RNNs, LSTMs, Transformers.
  – Learned Dropout, BatchNorm and Xavier/He initialization.
  – Tackled real-world cases such as speech recognition, music synthesis, chatbots, machine translation, natural language processing and more.

- **Republic of Korea Defense Communication Command, Republic of Korea Air Force**   *Sep. 2019 - Jun. 2021*
  Signalman, Squad Leader, Staff Sergeant   Osan Air Base, South Korea
  – Operated and maintained a robust Wide Area Communication System to facilitate efficient and secure communication across large geographic areas.
  – Led a squad of 12 members, ensuring effective communication, coordination, and mission accomplishment.
  – Discharged with the rank of staff sergeant.

Projects

- **Practical Problem Research Group 2025.** Research on heterogeneous control including reinforcement learning and model predictive control on 4 legged robots. Funded by Uniersity of Seoul. (*Aug. 2025 - Present*)

- **Development of real-time vehicle dynamics learning and sharing technology for adaptive and predictable cooperative autonomous driving.** Research on developing a real-time dynamics learning for cooperative train driving. Joint research with Korea Railroad Research Institute. (*Apr. 2025 - Present*)

Technical Skills

Languages: English (B2), Korean (Native), Chinese (A2), Japanese (A2).
Programming: Python, MATLAB, R, SAS, C/C++, Java, C#, JavaScript.
Frameworks: PyTorch, TensorFlow.

Publications

- **[Paper] Sungjun Eom**, Gyunghoon Park,"Differential Dynamic Programming for the Optimal Control Problem with an Ellipsoidal Target Set and Its Statistical Inference " in 25th International Conference on Control, Automation and Systems (ICCAS) 2025.

- **[Paper]** Jae-Seok Jang, Bon-Jae Ku, **Sung-Jun Eom**, Ji-Hyeong Han,"Malware detection methodology through on pre-training and transfer learning for AutoEncoder based deobfuscation" in KIPS 2022.